



Energy Actions Catalog

Catalog of Energy Saving Actions

Not all energy saving actions are equal!¹ An action we may think is very effective, such as turning off lights, may have much less impact compared to another action, such as regulating our thermostats. To make taking action easier for you, we have selected 5 actions, our Top 5 Picks, that will result in energy savings and lower utility bills. In addition, the environmental and/or energy saving benefit of each action in this catalog is ranked by the number of Green Points associated with completion of the action. The number of hammers is an indication of how much effort is involved, while the number of dollar signs indicates relative cost. Refer to the symbols legend on page 12.

Top 5 Picks

Here are 5 actions that will result in significant energy savings and lower utility bills. They range from free, low-effort actions to insulation projects requiring a financial investment. ***If you don't do anything else, do these!***



(1) We upgraded our attic insulation (preferably at the R-value recommended by a professional home energy auditor or contractor.)

If your home was built before 1991, your attic needs an insulation upgrade. Improving attic insulation can save up to 7% of U.S. households' energy consumption (5% on heating and 2% on cooling). In some cases it can cut heating and cooling costs in half! Depending on the R-value desired, square footage, and type of insulation, upgrades may range in cost from \$700 to \$1,400. But energy savings with proper insulation may range from \$320 to \$440 so the payback is only 2-3 years! It is a good idea to involve a professional for advice or installation. Properly sealing air leaks is an important component of a good insulation job and improperly installed batts can sometimes do more harm than good! Read this Attic Insulation Upgrade flier for more information:

www.jea.com/about/pub/downloads/AtticInsulationUpgrade.pdf

For details on all the elements of a proper insulation job, check-out EPA's **Do It Yourself Guide to Sealing and Insulating with Energy Star:**

www.energystar.gov/index.cfm?c=diy.diy_index

Remember, insulation supplies qualify for a federal tax credit:

www.energystar.gov/index.cfm?c=tax_credits.tx_index

To make your insulation project even greener, consider batt insulation made of 90% recycled cotton. This natural insulation meets the highest testing standards for fire and smoke ratings, fungi resistance and corrosiveness, but is more expensive than fiberglass. Information and distributors can be found at

bondedlogic.com/ultratouch-cotton.htm.

¹ For more information about the most effective energy saving actions U.S. households can take, read *The Short List* at: www.environmentmagazine.org/Archives/Back%20Issues/September-October%202008/gardner-stern-full.html and *Unplug for Savings* at www.ecw.org/ecwresults/homeenergy-sepoct2010.pdf



(2) We use energy-efficient lighting in at least 85% of our lighting fixtures. (Compact Fluorescent Bulbs (CFLs), T-8 or T-5 fluorescent, and/or LED)

Fluorescent lights use up to 75% less energy than incandescent light bulbs and can last up to 10 times as long. Using CFLs throughout your home may result in energy savings up to 4%. If you replace 20 bulbs with more energy-efficient lights, you can save up to \$600 over the lifetime of the bulbs. CFLs now come in all shapes and sizes. There are dimmable models, models for recessed lighting and outdoor lighting.

If you tried a CFL and didn't like it, it may be because you didn't select the right wattage, color, brightness or size. When purchasing CFLs, use these equivalencies to get the brightness you are looking for (or roughly divide by 4):

<u>Incandescent</u>	<u>CFL</u>
60 Watt	13 Watt
75 Watt	18 Watt
100 Watt	23 Watt

For up to \$25 dollars in rebates for CFL bulbs and multi-packs, download Allegheny should be Allegheny Power Watt Watchers rebate coupons at:

www.alleghenypower.com/EngConserv/MD/WattWatchers/RebateCFL.asp

For more Energy Star information on choosing the right bulb, visit: tinyurl.com/ygxzvzp

For information on LED lighting, visit: www.eartheasy.com/live_energyeff_lighting.htm



(3) We manually regulate our thermostat or use an Energy Star programmable thermostat.

The EPA recommends that you set the thermostat to 68°F in winter when you're at home and down to 55°F when you go to bed or when you're away. For every degree you lower your heat in the 60-degree to 70-degree range, you'll save up to 5% on heating costs. In the summer, set the thermostat to 77°F or 78°F. For every degree you raise your thermostat setting above 72 degrees, you will save about 7% on cooling costs.

(Source: www.santaclara.ca.gov)

When programmable thermostats are installed and used with the four pre-programmed temperature settings for weekend and weekdays, you can save about 16% each year on heating and cooling costs while staying comfortable. Programmable thermostats automatically adjust the temperature when you're sleeping or when you're away.

(Source: www.energysavers.gov)

For more information visit: tinyurl.com/y99npnn

Watch this video about how to purchase and install a programmable thermostat:

www.energystar.gov/index.cfm?c=thermostats.PT_Podcast



(4) We sealed our doors, windows, and attic stairs.

Unplanned air leakage through leaky doors and window joints, cracks, frames and sashes can account for 15-40 percent of a home's heating and cooling losses. If you close a piece of paper in a door and can pull it out easily, it needs weatherstripping. Stop air leaks around windows and doors with caulk, weather stripping should be weatherstripping, plastic film, or storm windows.

(Source: www.consumerenergycenter.org/home/windows/todays_windows.html)

From draft guards to foam weatherstripping, there's a wide variety of products and strategies. It's a good idea to learn what works best for your particular situation and the location and type of your doors and windows. Strategies and materials are described on these web sites:

tinyurl.com/ykkttoow

www.savehouseholdenergy.com/homeinsulation-tips.html

If you have a door to your attic or a pull-down stairway, insulating it can be a big energy saver! You can purchase insulated stairway covers at Amazon.com or learn how to do it yourself though dannyipford.com: tinyurl.com/2eeagzd

Take a look at these videos to learn how to install weatherstripping:

Entry Doors: www.youtube.com/watch?v=swDkiffcV-I







Attic Doors: www.youtube.com/watch?v=2y7aPy_pVz4&feature=related










Doors and windows: www.youtube.com/watch?v=rz4Po2VziUY





















For caulking and sealing gaps and windows:

www.womansday.com/Articles/Shelter/Video-How-to-Seal-Air-Leaks.html



	<div>     </div> <div> <p>(5) We set up Power Management on our desktop computers and laptops.</p> </div> <div> <p>The average desktop PC wastes half of the energy it consumes and 75% of energy consumption occurs when no one is in front of the computer! Did you know that a desktop computer left on 24/7 without power management can use up 600 kWh per year? That same computer will use only 200 kWh per year if power management is enabled. Of all the energy savings possible from household plug-in electronics, power management accounts for as much as 40%! By turning on your computer's energy saving features, you can save over \$60 a year in energy costs and reduce your CO2 emissions by nearly half a ton.</p> </div> <div> <p>(Sources: Energy Center of Wisconsin: www.ecw.org/ecwresults/homeenergy-sepoc2010.pdf, ClimateSaversComputing.org)</p> </div> <div> <p>You can run a wizard to set up power management for your monitors and CPUs running Windows 2000 or Windows XP operating systems at: www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_ez_wiz</p> </div> <div> <p>For power management instructions for a variety of operating systems, plus additional power management information and resources, visit: www.climatesaverscomputing.org/learn/saving-energy-at-home/</p> </div> <div> <p>For a free energy monitoring application, visit: www.verdiem.com/edison.aspx</p> </div> <div> <p>For more information about energy use and home computing, visit: www.energysavers.gov/your_home/appliances/index.cfm/mytopic=10070</p> </div>	<div>  </div>
<p>Total “Top 5 Energy Action” Green Points</p>		

Lighting Actions		
	<div>        </div> <div> <p>We installed solar light tubes.</p> </div> <div> <p>You can bring diffused natural daylight into dark spaces using solar light tubes. Solar light tubes generally have an infrared barrier which allows visible-spectrum light into your home, but not solar heat (infrared radiation). This prevents the solar tube from heating your rooms in hot summer weather. Some light tubes also come with lighting fixtures built in for evening use. (Source: www.green-energy-efficient-homes.com/solar-light-tube.html)</p> </div> <div> <p>Solar light tubes are relatively easy to install; it takes 2 – 3 hours. To learn how to install a solar light tube, watch this video: www.youtube.com/watch?v=wCbjoKF6ltw</p> </div>	<div>  </div>

	<div>    </div> <p>We turn off lights in areas that are not being used.</p> <p>This is the simplest behavioral change that you and your family can make to your daily energy-saving regimen! Making a difference starts with small changes. You can also install motion sensors in rooms that are not often used or walked through.</p> <p>For more information, visit: tinyurl.com/ylompmf</p>	
	<div>    </div> <p>We substitute natural light for electrical light.</p> <p>Using light that is already available during daytime hours reduces energy output from light bulbs, saving you money. For example, if a 100 watt light bulb is not being used during a daytime period from 7am to 7pm (12 hours), you can save up to 45 kilowatt hours (kWh) over a year. If you have 20 light bulbs in your home, you can save about \$100 each year with the average energy cost in Maryland being 13 ¢ per kWh. Open your curtains to allow natural lighting in and close them when it gets too hot. (Source: www.eia.doe.gov)</p> <p>For more information, visit: tinyurl.com/236pq8h</p>	
	<div>    </div> <p>We use solar walkway lights.</p> <p>Using solar walkway lights instead of a porch light or electric walkway lights will cut energy and/or battery costs because they use the sun to generate light energy and they only turn on at night using a light sensor. Little maintenance is needed other than keeping the solar cells clean from pollen, dust, and dirt.</p> <p>For energy-efficient product performance levels recommended by the U.S. Department of Energy, visit: tinyurl.com/28t8fru</p>	
	<div>    </div> <p>We use motion sensors for lighting in low traffic and low occupancy areas (e.g. outdoor floodlights, sheds, closets, attics).</p> <p>Motion sensors save energy by only turning on the lights when set or necessary. There are a variety of options for different uses from nightlights to porch lights.</p>	
Total “Lighting Actions” Green Points		

Heating & Cooling



We had our HVAC systems and ductwork professionally evaluated within the past 10 years. We sealed leaking ducts.

It is important to have your heating, ventilating, and air conditioning (HVAC) systems, and just as important, your ductwork evaluated especially if you are living in a home with a pre-existing system. A lot of significant problems can arise over time due to improperly sized HVAC systems and ducts as well as leaking ducts. In typical houses, about 20 percent of the air that moves through the duct system is lost due to leaks, holes, and poorly connected ducts. If you have return duct leaks, you could be pumping “bad air” directly into your living space. Leaking ducts also cause indoor air quality problems because of “pressure imbalances.” This can cause unhealthy air, laden with dirt, dust, pollen, allergens, and other contaminants, to be sucked into your home. Pressure imbalances can also cause backdrafting in combustion appliances such as furnaces, wood stoves and gas ranges. When this happens, you risk exposure to carbon monoxide, a deadly gas. To learn more about the importance of duct sealing, visit:

tinyurl.com/2o23kh or read this EPA Duct Sealing brochure: tinyurl.com/ykftmef.

Aeroseal is one company that runs diagnostic tests and can seal ducts from the inside.

(Sources: www.drenergysaver.com/ductwork.html and www.aeroseal.com)

You can also seal your ducts and filter rack yourself from the outhhside. Watch this video to see how: www.youtube.com/watch?v=iXDd4uJUn30

Read this **Energy Star Guide to Energy-Efficient Heating and Cooling**. It includes tips for selecting and working with a contractor: tinyurl.com/yc39snm

Also, **DOE’s Space Heating and Cooling web pages** includes tips on selecting and replacing systems as well as nformation about a wide variety of systems. Visit: tinyurl.com/27y28zh



Based on the results of a professional evaluation, we have replaced our HVAC system with an efficient/Energy Star certified alternative (or plan to do so within the next 6 months).

It is worth researching the many diverse heating and cooling system options available today —air, water, and geothermal heat pumps; wood, pellet, and corn stoves; traditional furnaces and boilers; radiant floor and panel heating; air and liquid active solar heating; central or ductless mini-split air conditioners to name a few. Visit this Energy Savers web site for information about heating and cooling system options and guidance on selecting and replacing systems: tinyurl.com/27y28zh

For corn or other biomass stove information and options, visit:

www.wiseheat.com or

www.ehow.com/how_2070503_choose-biomass-stove-heating.html





We **change our HVAC filters** every 3 months.

To keep your system running at optimum power, change your HVAC filter a minimum of every three months. Air conditioning and heating account for half of the household energy consumption. Changing the HVAC filters regularly will allow the system to operate efficiently and it will keep the indoor air clean. Use HEPA (High Efficiency Particulate Air) filters on your HVAC system so that you have maximum filtration in your home. For more information on HEPA filters, visit:

www.airfiltersandpurifiers.com/HEPA-filters

For more information, visit:

www.energystar.gov/index.cfm?c=heat_cool.pr_hvac



We **purchased an Energy Star certified air conditioner** within the past year.

By installing an Energy Star air conditioner, you can achieve up to 27% energy savings per year and up to \$1,000 in lifetime energy savings.

Receive up to \$200 in rebates from the Allegheny Power Watt Watchers program:

www.alleghenypower.com/EngConserv/EngConservHome.asp



We **converted our fireplace or pre-1990 wood stove** to a more efficient wood-burning or natural gas stove/fireplace.

Natural gas fireplaces and stoves are more efficient, safer to use, easier to start up, and don't require the use of logs compared to conventional wood-burning fireplaces. PM10s (particulate matter less than ten microns) are produced by burning wood and can cause lung damage, trigger asthma, or even develop lung cancer after long periods of exposure.

(Source: www.epa.gov/burnwise)

Wood stoves made after 1990 are EPA-certified, produce very little smoke (2-5 grams per hour), virtually no ash, 90 percent less emissions, and 33 percent more fuel efficiency than the old pot belly stoves.

(Source: www.woodstoves.arieljvan.com/wood-stoves-the-environment)

If you use a wood burning stove or furnace, learn about best practices at:
































www.epa.gov/burnwise/bestburn.html



We **keep unoccupied rooms closed**.

When a room is not in use, make sure to close the door and the vents so that energy is not wasted to cool or heat the room. This is a simple behavioral change that can save you money.



	<div>        </div> <p>We use bioheat (5% biodiesel fuel) in our oil burning furnace.</p> <p>Bioheat is a domestically produced, renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Bioheat is safe and biodegradable, and its use significantly reduces greenhouse gas emissions and serious toxic air pollutants. In 2007 Maryland passed a Bio-Heating Oil Tax Credit. The statute provides for a \$0.03/gallon tax credit up to \$500 for individuals and corporations that purchase Bio-Heating Oil for the purpose of space and water heating. The statute defines Bio-Heating oil as at least 5% biodiesel. Tax credits may be taken in 2010, 2011 and 2012. (Source: www.green.maryland.gov/mea.html)</p> <p>As of fall 2010, LS Fuel and Oil is the only provider of biodiesel fuel in Frederick County (301.663.3833).</p>	<div>  </div>
	<div>      </div> <p>We keep radiators and vents clear.</p> <p>Furniture that is placed within 2 to 3 feet of the radiator will absorb the heat that would otherwise rise to circulate and heat the room. Don't place anything on top of the radiator or position furniture or rugs directly on top of floor vents as it prevents air circulation. (Source: www.energystar.gov)</p>	<div>  </div>
	<div>      </div> <p>We maintain our air conditioner and heat pump.</p> <p>An air conditioner's filters, coils, fins, and refrigerant charge require regular, professional maintenance for the unit to function effectively and efficiently throughout its years of service. Neglecting necessary maintenance ensures a steady decline in air conditioning performance while energy use steadily increases. For more Energy Savers information, visit: tinyurl.com/273hos6 or tinyurl.com/29zo69</p>	<div>  </div>
	<div>       </div> <p>We installed ceiling fans.</p> <p>Ceiling fans efficiently circulate air throughout a home during winter and summer. They can increase the cooling effects of air conditioning so you can set your thermostat lower or not use A/C at all on mild days.</p> <p>In summer, run your fan counter-clockwise; in winter, run it clockwise so it pushes warm air up against the ceiling and down along the walls. For maximum energy saving benefits, purchase an Energy Star ceiling fan. These fans circulate an average of 15% more air than other ceiling fans.</p>	<div>  </div>
Total "Heating & Cooling" Green Points		

Building Envelope, Insulation & Weatherstripping



We **installed energy efficient windows** in the last 5 years or plan to do so in the next year.

Before making a large financial investment in new windows, explore all options for increasing the energy efficiency of your windows and overall home with your home performance auditor or contractor. You may be able to achieve comparable or even greater energy savings for far less cost.

If you do determine you need to replace your windows, consider all aspects of a window: the frame, glass or glazing, and operation. There are many energy efficient options and performance measures to take into account: insulated double/triple glazing, Low-E (emissivity) coatings, air leakage rate, and more. Windows are rated using a variety of energy performance characteristics: U-factors, Solar Heat Gain Coefficient (SHGC), sunlight transmittance, and more. Learn all about selecting energy efficient windows at:

Learn all about selecting energy efficient windows through energysavers.gov at: tinyurl.com/2bmk3tx

For tips on window-related energy savings, visit:

www.energysavers.gov/tips/windows.cfm

Watch these videos to better understand the benefits of Low-E window coatings:
















www.youtube.com/watch?v=QQ_nl-2C96Q

www.youtube.com/watch?v=RP9B1EyfrzY&feature=related

HISTORIC CONSIDERATIONS: If you live in the City of Frederick's Historic District, all window repairs and replacements must be approved by the Historic Preservation Commission. If your home has early or original windows, the Commission is likely to recommend repair or storm windows over replacement. This City of Frederick document contains guidelines for maintaining, repairing and replacing windows, as well as a list of manufacturers of replacement windows considered consistent with the *Frederick Town Historic District Guidelines*: www.cityoffrederick.com/cms/files/Historic%20District/window-repair.pdf

If your property is on the National Register of Historic Places, read this Preservation Brief on the Repair of Historic Wooden Windows: www.nps.gov/history/hps/tps/briefs/brief09.htm



	<div>    </div> <p>We sealed and insulated our building envelope.</p> <p>ENERGY STAR estimates that a knowledgeable homeowner or skilled contractor can save up to 20% on heating and cooling costs (or up to 10% of a home's annual energy bill) by sealing and insulating. The process involves locating and sealing air leaks that can occur in a variety of locations in your attic or basement. Leaks can also occur around furnace flues, recessed lights, or overhead lights and ceiling fans. Energy Star provides an online do-it-yourself guide for sealing and insulating your home: www.energystar.gov/index.cfm?c=diy.diy_index</p> <p>Whether you choose to do it yourself or hire a contractor, becoming informed about the process and proper techniques is important. For general information about sealing and insulating, visit: www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_sealing</p> <p>And while it may seem counter-intuitive, it is important to allow for adequate attic ventilation at the same time you are insulating and sealing! Learn about how proper attic ventilation can protect your roof, gutters, and more at: www.energystar.gov/index.cfm?c=diy.diy_attic_ventilation</p>	<div>  </div>
	<div>    </div> <p>We installed an inflatable draft-stopper in our fireplace.</p> <p>If you have a fireplace in a well-insulated home, but leave the damper open, you could be increasing your energy use and costs by 30%. Winter air leakage through fireplaces can increase winter energy bills by \$500 or more! Chimneys draw rising warm air out of your home which is replaced by cold air. You can install a low-cost inflatable pillow in your chimney to avoid this. It can be removed before fireplace use, and reinstalled after. For more information, visit: www.batticdoor.com/lowerheatingcosts.html</p> <p>Watch this installation video: www.youtube.com/watch?v=OWNlwFO4bS0</p>	<div>  </div>
	<div>    </div> <p>We installed a dryer vent seal.</p> <p>Is your laundry room the coldest room in your home? An often overlooked source of heat loss is the dryer vent. While a typical dryer vent flap may keep rodents out of your home, it makes a great pathway for heat to leave your home. Learn more about this at: www.doityourself.com/stry/dryer-vent-an-overlooked-source-of-heat-loss</p> <p>Dryer vent seals, which can also work on bathroom and kitchen vents, remain closed unless the dryer is in use. When the dryer is in use, a floating shuttle rises to allow warm air, lint, and moisture to escape. When the dryer stops, the shuttle drops back down, keeping cold air, birds, bugs and rodents outside.</p>	<div>  </div>



We installed foam gasket insulators behind electrical outlets and light switch plates.

Have you ever noticed a cold draft when you remove an outlet cover? Electrical boxes behind wall sockets penetrate into the wall cavity and its insulation making them potential sources of air leakage especially along outside walls. Polyethelyne foam gaskets installed behind electric outlet plate covers reduce drafts. For double or triple outlet or light switch boxes, multiple gaskets can be overlapped and trimmed to fit. Foam gaskets are simple to install and are available at local hardware stores or on-line vendors such as:

www.amconservationgroup.com/

To see how to install gaskets, watch: www.youtube.com/watch?v=i1A0IM3L73U



We open and close drapes to help heat and cool our home.

In the summer, close drapes and blinds during the hottest parts of the day (usually between 11am-3pm) to keep the sun from heating your rooms. Standard window blinds can be quite effective at keeping your house cool in summer, reducing heat gain by up to 45%.

In the winter, open drapes and blinds during the day to allow the sun to warm your home and close drapes and blinds during the evening to keep the heat inside your home. Conventional drapes or curtains reduce heat loss from a room by only 10%. Convection carries hot air between the curtain and the window, where the air loses heat, falls below the bottom of the curtain and out the sides and draws in more hot air above. Drapes or blinds that are close to the window and snug on all sides can reduce heat loss by as much as 25%. For more information, visit:

www.green-energy-efficient-homes.com/energy-saving-window-coverings.html



We use insulated shades or window quilts.

A lot of heat is lost during the night through window glazing. You can retain heat in your rooms by using insulated window shades or window quilts. Insulated shades can also keep heat from entering your rooms in the summer. Learn more about how window shades save energy at: www.green-energy-efficient-homes.com/energy-saving-window-coverings.html

There are many products to choose from; try searching Amazon.com or Google.com. Or if you are frugally-minded, learn how to make your own window quilts at:














www.bellaonline.com/articles/art34745.asp , or insulated Roman shades at:

www.doityourself.com/stry/how-to-make-your-own-insulated-roman-shades



	<div>     </div> <p>We made solar heat catchers for our windows in the winter.</p> <p>You can use the power of the sun to warm your south and east facing rooms in the winter by making simple passive solar heat catchers. While they may not help you win any home decorating awards, they can save you a substantial amount on heating costs; the inventor claims he has cut his winter electric heating bills in half! Basically, it amounts to hanging black painted foil in your windows. Learn how to make this simple heating device: www.bellaonline.com/articles/art36322.asp</p>	<div>  </div>
Total “Building Envelope, Insulation & Weatherstripping” Green Points		

Appliances & Electronics

	<div>      </div> <p>We eliminated vampire power/phantom loads by unplugging power adaptors and plugging electronics and appliances into power strips and turning them off when not in use.</p> <p>Standby power, vampire power and phantom loads refer to the electric power consumed by electronic appliances, such as VCRs, televisions, stereos, computers, and kitchen appliances, while they are switched off or in standby mode. A very common “electricity vampire” is a power adapter which has no power-off switch. <i>Make sure to unplug your cell phone and reusable battery chargers from the outlet when not in use.</i> These use energy even when not recharging! Studies at Lawrence Berkeley National Laboratory have estimated that standby power may account for 5% to as much as 10% of total residential household power consumption in the U.S. That adds up to \$3-6 billion in energy costs. (Source: www.en.wikipedia.org/wiki/Standby_power; www.energy.gov)</p> <p>Read this short Home Energy magazine article, <i>Unplug for Savings</i>, about saving energy with home electronics and plug-in devices: www.ecw.org/ecwresults/homeenergy-sepoct2010.pdf</p>	<div>  </div>
	<div>     </div> <p>We use a “smart” power strip to manage vampire power.</p> <p>When it comes to your family entertainment system, there may be some devices, such as a DVR or TiVo, you do not want to ever shut off. You can use a “smart” power strip that has a master outlet and “constant-on” outlets to manage this situation. If you plug your TV into the master outlet, then other devices will only come on when the TV does, while devices plugged into the “constant-on” outlet remain on all the time. Using a “smart” power strip can cut the cost of vampire power in a home entertainment system in half. The Smart Strip brand is available at local hardware stores or online through Amazon.com. The Wattstopper brand is available at: www.wattstopper.com.</p> <p>To see how to benefit from using a “smart” power strip, watch this 2+ minute video: www.youtube.com/user/eonusvideo#p/u/3/KFINLX_xYFY</p>	<div>  </div>



We **purchased a high-efficiency Energy Star appliance** in the last year and will choose Energy Star appliances when the time comes to replace other appliances in the future.

Energy Star appliances offer more energy and money savings over their lifetimes. The Allegheny Power Watt Watchers program offers rebates for Energy Star appliances. (www.alleghenypower.com/EngConserv/MD/WattWatchers/RebatesRes.asp)

For more information, visit: www.energystar.gov/index.cfm?c=products.pr_find_es_products



We **use clothes lines and racks** (indoors and/or outdoors) to dry at least half our laundry.

Clothes dryers use 5-10% of a household's daily energy use and are one of the most expensive home appliances to operate (\$100-\$200/year). They are also one of the most dangerous causing more than 15,000 home fires annually. (Sources: Underwriters Laboratories; Saturn Resource Management, Laundry List Project).

If you think you are forbidden from using a clothesline by your homeowner's association or condominium, here's some good news! Maryland's "Right-to-Dry" legislation (SB 224) went into effect on October 1, 2010 and requires condominium associations, homeowner associations, and cooperatives to allow homeowners to install clotheslines on their property.

From saving money to the natural disinfecting power of sunlight, there are many benefits to air-drying clothes. Read the top 10 at: www.laundrylist.org/en/line-drying

If you would like to know how much energy and money it takes to launder your household's clothes, try out this calculator: www.laundrylist.org/en/line-drying/calculator



















There are lots of clothesline and drying rack options. To explore models that may work for your household, visit: www.urbanclotheslines.com/
















TIP: Using hangers can really reduce the length of clothes line you need. (You'll need a rod or taught wire for this approach.) Use each hanger as a mini-clothes line for socks, dishtowels, and the like. Install a rod over your washer dryer or use your shower rod for hangers during rainy or winter weather.

If you have severe allergies to pollen, check the weather and the Air Quality Index before you hang your clothes outside. For more information on pollen, visit:

www.niehs.nih.gov/health/topics/conditions/asthma/pollen.cfm























	<div>     </div> <p>We use a microwave, outdoor grill or solar cooker in the summertime and choose small appliances year round.</p> <p>Cooking on a stove or using your kitchen oven, even for about an hour a day, uses a lot of energy and can raise the overall temperature in your home by as much as four degrees. Heating caused by using your oven or stove makes it more difficult for your air conditioning thermostat to maintain proper room temperature. Using a microwave (which uses 66% less energy) or grilling outside can ease some of the burden on your air conditioning system, lowering your summer energy bills. Using small appliances, such as toaster ovens or electric frying pans, can save a lot of energy any time of year! (Source: Idaho Power Energy Efficiency Guide 2010)</p> <p>Go even greener by trying solar cooking! www.applied-solar.info/solar-cooking/benefits-of-solar-oven-cooking/</p> <p>You can make your own solar cooker very inexpensively; here are some innovative plans: www.solarcooking.org/plans/</p> <p>You can also purchase solar ovens from a number of on-line sites, such as: www.solarovens.org/buy.html</p>	<div>  </div>
	<div>     </div> <p>We keep our refrigerator's thermostat between 38 and 42° F and clean our refrigerator coils at least twice a year.</p> <p>Keeping refrigerator coils clean can help you save money and avoid service calls. To clean the coils on your fridge, first move it away from the wall carefully and unplug it. Locate the coils -- either on the back or at the front bottom of the fridge. If they're at the bottom, snap off the grill in the front covering them and use a coil cleaning brush (available at hardware and appliance-parts stores) to loosen the dirt; then remove it by vacuuming. You may need to also remove the back panel and clean it from the back. If the coils are on the back, clean them the same way. Do this at least twice a year (more often if you have pets) to help keep your refrigerator operating efficiently.</p> <p>To learn how to clean your refrigerator coils from the back and front, watch: www.youtube.com/watch?v=2Z3zpe8ORig&feature=related</p>	<div>  </div>
	<div>     </div> <p>We test the seals on our fridge and freezer and replace them when needed.</p> <p>Warped or damaged gaskets on your refrigerator or freezer not only waste energy, they can lead to drips and mold. To test their effectiveness, place a dollar bill in the door and close. Gently tug it. If the dollar comes out easily, the gasket is not working properly, and you are losing energy and money. (Source: www.org.elon.edu; www.1800anytime.com/blog/blow-off-your-old-refrigerator-gasket/99/)</p> <p>To see how to replace the gaskets, watch: www.youtube.com/watch?v=Xd21H3cjral&feature=related or www.youtube.com/watch?v=1Idn2Ur2ug0</p> <p>depending on whether your seal is removable or attached to the appliance.</p>	<div>  </div>

	   <p>We turn on computer peripherals only when we need them.</p> <p>Most likely, when you turn on your computer, your printer, scanner, and other peripherals come on too, even though you may only use these devices once or twice per week. Keep them turned off and turn them on only when you need them!</p>	
	   <p>We use programmable timers for power tool charging.</p> <p>People sometimes use timers to turn on and off lights while away from home or start and stop the coffee pot. Another good use of timers is power tool charging. You may only use a power tool a few times a month, but it may be sitting in a charger 24/7! You can use a timer to charge your tools intermittently; they'll be ready when you need them without wasting energy unnecessarily.</p>	
	   <p>We keep our freezer defrosted and raised the thermostat from -5 to between 0 and +5° F.</p> <p>Keeping your freezer defrosted not only saves wasted energy from over-cooling the freezer, but it also saves your food as the frozen water in the food will not crystallize and cause freezer burn. Try not to open and close your freezer door frequently, as the fluctuation in temperatures above and below the freezing point also contributes to freezer burn.</p> <p>Food retains cold better than air so keep the freezer at least half filled with food. The old standby of putting water filled milk jugs is still a good energy saving tip. (Source: Farmington, NM Electric Utility)</p>	
Total "Appliances & Electronics" Green Points		

Water Conservation & Heating

Note: For actions and information related solar thermal systems, refer to the Green Homes Challenge Renewable Star Handbook.

	      <p>We installed low-flow showerheads.</p> <p>Energy and water efficient shower heads use roughly three or more gallons per minute (gpm) less than older pre-1992 models. That saves water and energy because your water pump isn't pumping as much water. Showerheads are inexpensive and there are many models to choose from. Select a showerhead with less than 2.5 gpm. For more information, visit: www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=13050</p> <p>To learn how to replace your showerhead, watch this video: www.youtube.com/watch?v=gQy2D8ZzeDo</p>	
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	<div>  </div> <p>We installed a high-efficiency/dual flush toilet or conversion kit.</p> <p>Toilets use more water than any other device in your home--about 30 percent of all your indoor water consumption. New toilets use less 1.6 gallons per flush (gpf) and high-efficiency toilets (HETs) go beyond the standard and use 1.28 gpf (a 20% savings) or less. Dual Flush Toilets use less water for liquid waste than solid waste. If you are purchasing a new toilet, look for the WaterSense label. For more information, visit: www.highefficiencytoilets.org/ home.howstuffworks.com/dual-flush-toilet.htm</p> <p>For a lower cost option, you might want to consider a dual flush conversion kit. They are available at stores like Home Depot and Bed, Bath & Beyond, or Google “dual flush conversion kit” for more options.</p>	<div>  </div>
	<div>  </div> <p>We installed a tankless hot water heater.</p> <p>Also known as a “demand” or “instantaneous” water heater, the tankless systems can conserve up to 34% of energy compared to a conventional hot water tank. For comprehensive information about tankless water heaters, visit: www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=12820</p> <p>Tankless hot water heaters and installation services are available at stores like Home Depot and Lowes. For do-it-yourself installation, read: www.knick-knack.com/howto/house/tankless-hot-water-heater.html</p>	<div>  </div>
	<div>  </div> <p>We installed an insulating wrap on our hot water heater.</p> <p>You can save 4%–9% in water heating costs by wrapping your hot water heater with an inexpensive insulating wrap. Take this step if your hot water heater is old, warm to the touch, or has an R-value on the label less than 24. Note, the installation steps are slightly different for electric or gas water heaters. Learn how to do it at: www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=13060</p> <p>Or watch this short video: www.youtube.com/watch?v=EDzaa-6j7O8&feature=related</p>	<div>  </div>
	<div>  </div> <p>We insulated our hot water pipes.</p> <p>Insulating hot water pipes, especially those in unconditioned spaces such as a basement, reduces heat loss and can raise delivered water temperature by 2–4 degrees Fahrenheit; this allows for a lower water temperature setting. You’ll also conserve water because you won’t have to wait as long for hot water when you turn on a faucet or showerhead. This is an easy do-it-yourself project and the materials you need are available at your local hardware store. For basic information, visit: www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=13060</p> <p>For more in-depth how-to instructions, visit: www.leaningpinesoftware.com/hot_water_pipes.shtml</p> <p>Or watch this short video to learn how to do it safely and properly: www.youtube.com/watch?v=FqGrYK_jRkQ</p>	<div>  </div>



We **set our water heater's maximum temperature to 120° F.**

You can reduce your water heating costs by simply lowering the thermostat setting on your water heater. For each 10 degree reduction in water temperature, you can save between 3%–5% in energy costs. The recommended temperature for optimal savings is 120°. Reducing your water temperature also slows mineral buildup and corrosion in your water heater and pipes; this helps your water heater last longer and operate at maximum efficiency. For more Energy Savers information, visit: tinyurl.com/268sb6q

Safety Concerns: Water heaters set at 140°F pose risks of scalding and burns especially for children. Lowering the temperature can, however, create more risk for Legionnaires Disease. If this concerns you, read this treehugger.com article: tinyurl.com/avok9k



We **installed a timer on our pre-1998 electric hot water heater.**

Putting an inexpensive timer on your electric hot water heater so it shuts down when you are asleep or at work and starts up again about an hour before you wake or return can save energy and money. The savings will be more significant if your hot water heater was made before 1998 and you do not want to insulate your heater or hot water pipes.

(Source: www.michaelbluejay.com/electricity/waterheaters.html)

For more information, visit: tinyurl.com/2eh7483

To learn how to install a timer, visit: tinyurl.com/2czv7uj



We **installed low-flow faucet aerators.**

Newer kitchen faucets usually come with low-flow faucet aerators that restrict flow to 2.2 gpm, but should you need to replace it, or install them on bathroom faucets, be sure to select one with a flow rate of no more than 1.0 gpm. For more Energy Saver information, visit: tinyurl.com/yl5pw2k

To learn how to replace or install faucet aerators, watch this video:
www.youtube.com/watch?v=xNQ1auGtSyY



Total “Water Conservation & Heating” Green Points

Total Green Points from Sections in the Energy Actions Catalog
Note here and on your Power Saver Certification Form